

IN THE CLAIMS:

1. (Currently Amended) A filter device comprising:
a filter element that has a plurality of piezoelectric thin-film resonators arranged in series arms and parallel arms; and
a package that houses the filter element in a face-down state,
the filter element and the package being electrically connected to each other through bumps,
the package having a plurality of first pad parts on which the bumps are placed, and a plurality of transmission paths that electrically connect the first pad parts to the outside,
the filter element having a plurality of second pad parts that are electrically connected to the first pad parts through the bumps, and a plurality of wiring parts that electrically connect the second pads to the piezoelectric thin-film resonators and electrically connect the piezoelectric thin-film resonators to one another, and
inductances formed with the transmission paths being connected in series to the piezoelectric thin-film resonators,
wherein the area of each of the first pad parts is one to six times larger than the placement area of each corresponding one of the bumps, and
wherein the transmission paths are formed under the filter element on a die-attach face of the package.
2. (Original) The filter device as claimed in claim 1, wherein each of the wiring parts has a thickness increased by an addition of a conductive layer.

3. (Original) The filter device as claimed in claim 1, wherein each of the second pad parts has a thickness increased by an addition of a pad base layer.

4. (Previously Presented) The filter device as claimed in claim 3, further comprising conductive layers formed on the wiring parts connecting the second pad parts to the piezoelectric thin-film resonators, wherein the conductive layers are integrally formed with the pad base layers.

5. (Previously Presented) The filter device as claimed in claim 3, further comprising conductive layers formed on the wiring parts connecting the piezoelectric thin-film resonators to one another, wherein each of the conductive layers has the same layer structure as each of the pad base layers.

6. (Previously Presented) The filter device as claimed in claim 2, wherein each of the conductive layers has a double-layered structure.

7. (Original) The filter device as claimed in claim 1, wherein each of the wiring parts has a length-width ratio of 3 or smaller.

8. (Original) The filter device as claimed in claim 1, wherein:
the piezoelectric thin-film resonators arranged in series arms are aligned in a row; and

at least one of the piezoelectric thin-film resonators arranged in parallel arms is placed on one side of the row of the piezoelectric thin-film resonators arranged in series arms, while the other piezoelectric thin-film resonators arranged in parallel arms are placed on the other side of the row.

9. (Canceled)

10. (Original) The filter device as claimed in claim 1, wherein each of the first pad parts is connected to each corresponding one of the second pad parts through each corresponding one of the bumps.

11. (Canceled)

12. (Original) The filter device as claimed in claim 1, wherein at least 80% of the transmission paths are formed on regions that do not face regions of the filter element in which the wiring parts, the pad parts, and the piezoelectric thin-film resonators are formed.

13. (Original) The filter device as claimed in claim 1, wherein the package has glass ceramics as a main component.

14. (Original) The filter device as claimed in claim 1, wherein the line widths of the transmission paths are in the range of 50 μm to 150 μm .

15. (Original) The filter device as claimed in claim 1, wherein each of the transmission paths has copper or silver as a main component.

16. (Original) The filter device as claimed in claim 1, wherein each of the transmission paths has at least one curved part.

17. (Original) The filter device as claimed in claim 1, wherein the filter element has the piezoelectric thin-film resonators arranged in a ladder-like fashion.

18. (Original) The filter device as claimed in claim 1, wherein the filter element has the piezoelectric thin-film resonators arranged in a lattice-like fashion.

19. (Original) The filter device as claimed in claim 1, wherein the package includes:

- a bottom part that holds the filter element in a face-down state;
- side wall parts that surround the filter element held on the bottom part;
- conductive seal rings that are formed over the side wall parts; and
- a conductive cap member that seals a concavity formed by the bottom part and the side wall parts, with the conductive seal rings being interposed.

20. (Original) The filter device as claimed in claim 1, wherein the package includes:

a bottom part that holds the filter element in a face-down state;
side wall parts that surround the filter element held on the bottom part;
conductive seal rings that are formed over the side wall parts;
a conductive cap member that seals a concavity formed by the bottom part and
the side wall parts, with the conductive seal rings being interposed; and
vias that penetrate the side wall parts from the bottom part to the conductive seal
rings,
the transmission paths being connected to the conductive seal rings through the
vias.

21. (New) The filter device as claimed in claim 1, wherein the transmission
paths have portions that extend outwards beyond the filter element.